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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,336	02/19/2004	Lesley O. Bond	5750-012	5092

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EXAMINER

COY, NICOLE A

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/782,336	Applicant(s) BOND ET AL.	
	Examiner Nicole Coy	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14-21 and 24-36 is/are pending in the application.
- 4a) Of the above claim(s) 14-16, 21 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 17-20 and 25-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/11/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The indicated allowability of claims 12, 17, 20, 22, 23, and 25 is withdrawn in view of the newly discovered reference to Liu. Rejections based on the newly cited reference follow. This rejection is non-final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-11, 17-20, and 25-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu (US Pub. No. 2003/0037692).

With respect to claim 1, Liu discloses an apparatus for stimulating production from a hydrocarbon-containing formation in an oil or gas well, the apparatus comprising: a container sized to be received and supported in the well at a level adjacent the formation (see figure 17 numeral 290); at least one shaped charge supported within the container (see figure 17 numeral 280), the shaped charge adapted when ignited to perforate the formation (see page 18 paragraph [0163]); a supply of oxygen-rich material supported within the container and adapted to be introduced explosively into the formation with the shaped charge whereby burning of hydrocarbons therein is

promoted (see page 18 paragraph [0163]), wherein the oxygen-rich material is part of each of the shaped charges and adapted to be propelled into the formation by the explosion of the shaped charge (see page 18 paragraph [0163] and abstract); and at least one igniter for detonating the shaped charge (see page 9 paragraph [0099] and page 21 paragraph [0180]).

With respect to claim 2, Liu discloses that the container is elongated having first and second ends (see figure 16).

With respect to claim 3, Liu discloses that the apparatus further comprises a high order primer cord in contact with each of the at least one shaped charge and adapted to be ignited by the igniter (see page 7 paragraph [0086]).

With respect to claim 4, Liu discloses that the igniter is an electric igniter (see page 21 paragraph [0180]).

With respect to claim 5, Liu discloses that the at least one shaped charge comprise a plurality of shaped charges positioned to perforate different locations in the formation (see figure 17).

With respect to claim 6, Liu discloses that the apparatus further comprise a high order primer cord in contact with each of the at least one shaped charge and adapted to be ignited by the igniter (see figure 17 and page 21 paragraph [0180]).

With respect to claim 7, Liu discloses that the oxygen-rich material is potassium nitrate (see page 4 paragraph [0042] and figure 3, wherein potassium nitrate reacts with aluminum to form molten aluminum).

With respect to claim 8, Liu discloses that the at least one shaped charge comprises a plurality of shaped charges positioned to perforate different locations in the formation (see figure 17).

With respect to claim 9, Liu discloses that the apparatus further comprises a high order primer cord in contact with each of the at least one shaped charge and adapted to be ignited by the igniter (see page 21 paragraph [0180]).

With respect to claim 10, Liu discloses that the igniter is an electric igniter (see page 21 paragraph [0180]).

With respect to claim 11, Liu discloses that the apparatus further comprises a primer cord in contact with each of the at least one shaped charge (see page 21 paragraph [0180]).

With respect to claim 17, Liu discloses that the at least one shaped charge comprises: a body of fast burning explosive formed to have a stepped frontal recess with a conical center portion and a frusto-conical forward position having a narrowest diameter to form a step between the center portion and the forward portion (see figure 16); a body of oxygen-rich material formed to be received in frusto-conical forward portion of the frontal recess of the body of explosive and having a narrowest diameter substantially the same as the widest diameter of the center portion of the frontal recess of the body of fast burning explosive (see figure 16), so that the conical center portion of the frontal recess of the body of explosive and the body of oxygen-rich material form a complete cone (see figure 16); a detonator adapted to ignite the body of fast burning explosive (see page 7 paragraph [0086]); and a conically shaped liner (10) positioned

inside the conical center portion of the frontal recess in the body of fast burning explosive (see figure 15).

With respect to claim 18, Liu discloses a method for stimulating hydrocarbon containing strata in an oil or gas well, the method comprising: perforating the formation used a shaped charge (see figure 22); and explosively introducing an oxygen-rich material to the formation whereby burning of the hydrocarbon is promoted (see figure 22), wherein the oxygen-rich material is introduced into the formation by the explosive force of the shaped charge (see figure 15 and 16 and page 18 paragraph [0163]).

With respect to claim 19, Liu discloses that the oxygen-rich material is potassium nitrate (see page 4 paragraph [0042] and figure 3, wherein potassium nitrate reacts with aluminum to form molten aluminum).

With respect to claims 20 and 25, Liu discloses that the oxygen-rich material is introduced into the formation ahead of the jet from the shaped charge (see page 18 paragraphs [0163] and [0165]).

With respect to claim 26, Liu discloses an apparatus for stimulating production from a hydrocarbon-containing formation in an oil or gas well, the apparatus comprising: a container sized to be received and supported in the well at a level adjacent the formation (290), wherein the container is elongated having first and second ends (see figure 17); two end charges of low order explosive material (see figure 17, wherein the top and bottom charges are two end charges of low order explosive material), one positioned at each of the first and second ends of the container (see figure 17); at least one shaped charge supported within the container between the two end charges (see

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figure 17), the shaped charge adapted when ignited to perforate the formation a supply of oxygen-rich material supported within the container around the shaped charge (see figures 16 and 17 wherein material 270 is around the shaped charge) and adapted to be introduced explosively into the formation with the shaped charge (see page 18 paragraphs [0163] and [0165]), whereby burning of hydrocarbons therein is promoted (see abstract); and at least one igniter for detonating the shaped charge and the end charges (160 and 180).

With respect to claim 27, Liu discloses that the apparatus further comprises a high order primer cord (160) in contact with each of the at least one shaped charges and both the end charges and adapted to be ignited by the igniter (see figure 17).

With respect to claim 28, Liu discloses that the igniter is an electric igniter (see page 21 paragraph [0180]).

With respect to claim 29, Liu discloses that the at least one shaped charge comprises a plurality of shaped charges positioned to perforate different locations in the formation (see figure 17).

With respect to claim 30, Liu discloses that the apparatus further comprises a high order primer cord (160) in contact with each of the at least one shaped charges and both the end charges and adapted to be ignited by the igniter (see figure 17).

With respect to claims 31 and 32, Liu discloses that the oxygen-rich material is potassium nitrate (see page 4 paragraph [0042] and figure 3, wherein potassium nitrate reacts with aluminum to form molten aluminum).

With respect to claim 33, Liu discloses that the apparatus further comprises a high order primer cord (160) in contact with each of the at least one shaped charges and both the end charges and adapted to be ignited by the igniter (see figure 17).

With respect to claim 34, Liu discloses that the igniter is an electric igniter (see page 21 paragraph [0180]).

With respect to claim 35, Liu discloses that the at least one shaped charge comprises a plurality of shaped charges positioned to perforate different locations in the formation (see figure 17).

With respect to claim 36, Liu discloses that the oxygen-rich material is potassium nitrate (see page 4 paragraph [0042] and figure 3, wherein potassium nitrate reacts with aluminum to form molten aluminum).

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Coy whose telephone number is 571-272-5405. The examiner can normally be reached on M-F 8:00-5:30, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

nac


William Neuder
Primary Examiner